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old Cyclomatic Control Diagram - Model 53

OPERATING INSTRUCTIONS

Automatic Operation

With "Operating Handle" (A) at "Off" position, open "Steam Supply Valve". Do not attempt to sterilize until "Jacket Gauge" (B) shows 15 to 17 pounds pressure. Now place load in sterilizer. With load in sterilizer and door locked, turn "Timer" (C) to desired exposure period. Then turn "Selector Switch" (D) to the appropriate position desired -- such as: "Slow Exhaust" for Liquids, "Fast Exhaust", if drying is not required, and "Fast Exhaust and Dry" for surgical packs, wrapped supplies, etc. Turn "Operating Handle" (A) (clockwise only) to "Sterilize". Operator may now leave sterilizer until cycle has been completed. With "Operating Handle" (A) turned to "Sterilize" position, the red light (designated Steam) will come on, indicating that steam is entering the chamber. When the temperature in the chamber drain line reaches 250°F., the timer will begin to operate, and the clear light (designated Timing) will come on indicating that the timer (C) has begun to operate. At completion of timed sterilizing period, the "Operating Handle" (A) automatically moves to the selected "Exhaust" position and the red and clear lights will go out. The yellow light (designated Exhaust) will come on indicating that the "Exhaust" cycle has started. If "Selector Switch" (D) has been set on the "Fast Exhaust and Dry" position the "Operating Handle" (A) will automatically move to the "Dry" position, after the chamber pressure has been exhausted. With the "Operating Handle" (A) in the "Dry" position, the clear light (designated Timing) comes on for the 15 minute timed "Drying" cycle. At the completion of the "Drying" cycle, the yellow and clear lights will go out. Now the amber light (designated Sterile) will come on and the buzzer will sound, until the "Operating Handle" (A) is manually turned to the "Off" position. The load may now be removed from the sterilizer. If further drying is required, open door slightly, (about 1/2") and allow the load to remain in Sterilizer for approximately five minutes. Then open door fully and remove load.

Manual Operation

In the event of electrical current failure, the Control may be operated manually by simply turning the "Selector Switch" (D) to the "Manual" position. Then turn the "Operating Handle" (A) (clockwise only) to that position on the dial which corresponds to the proper sequence of operation in the sterilizing cycle.

Warning

Do not attempt to turn the "Operating Handle" (A) in a counter-clockwise direction, as damage will result to the cam switches and make the Control inoperative.

MAINTENANCE INSTRUCTIONS

The Cyclomatic Control is designed to operate under adverse conditions of high heat and humidity, which are common to the Sterilizing Room. No periodic maintenance is necessary. There is no danger to the operator or to the control due to improper operation. With ordinary care in operation, this Control will give years of trouble free service.

Electric supply to the Cyclomatic Control must be 110-120 Volts, 60 Hz, with a solid connection to the current source.

To replace a burned out lamp (Pilot Lamp NE-51, Miniature Bayonet Type Base): Unscrew lamp lens, push in on lamp, and turn counterclockwise to remove from socket. Insert lamp by placing in socket and turning clockwise. Now replace lamp lens.

To replace a burned out fuse (½ Amp. Slo-Blo Type 3 AG): Remove fuse holder by turning counterclockwise and pulling out. Fuse is mounted in socket of fuse holder, and can be removed by pulling out. Use care in replacing fuse holder — do not force when screwing back into place.

Should replacement of fuses, renewal of pilot lamp or the tightening of control knobs fail to make the Control operate properly, consult a trained serviceman. Hospital personnel should not attempt to make any major repairs to the Control. In case of failure, notify the District Office of the American Sterilizer Company or distributor from whom the Control was purchased.

Reset Timer is set to operate only when sterilizing temperature has been reached. If temperature is reduced or electric current supply shuts off during timed cycle, the timer will reset to the original setting and start new cycle, thus preventing unsterile goods being removed from sterilizer. This can be recognized when the following condition exists: The sterilizer is loaded and started on the sterilizing timed cycle. If it continues to operate longer than the set time and the red pointer does not approach the "O" point on the dial, this indicates that the electrical current was interrupted to the timer and caused it to reset. Should the timer continue to recycle, check the temperature (it should remain constant during sterilizing cycle). Check main line steam pressure and electrical source for possible failure.

NOTE TO SERVICEMAN:

When ordering parts for Cyclomatic Control, remove front panel (necessitating the removal of 5 screws: 2 Gauge Glasses; Selector Switch and Operating Handle) and note Model Number in upper left hand corner of mounting chassis. Send this information along with the name and number of the part(s) involved (see chassis assembly drawing on Page 6).

vac relief gauge
? 463

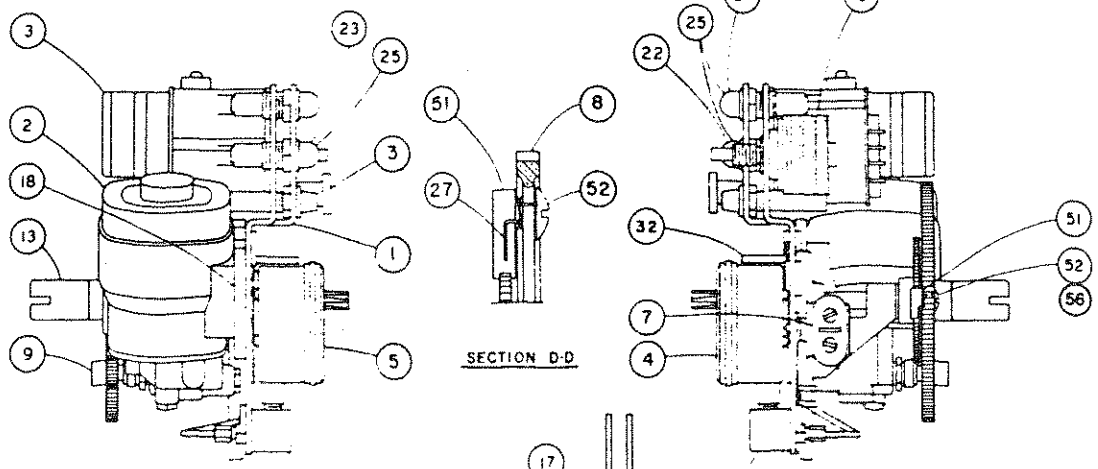
Rev. 11/82

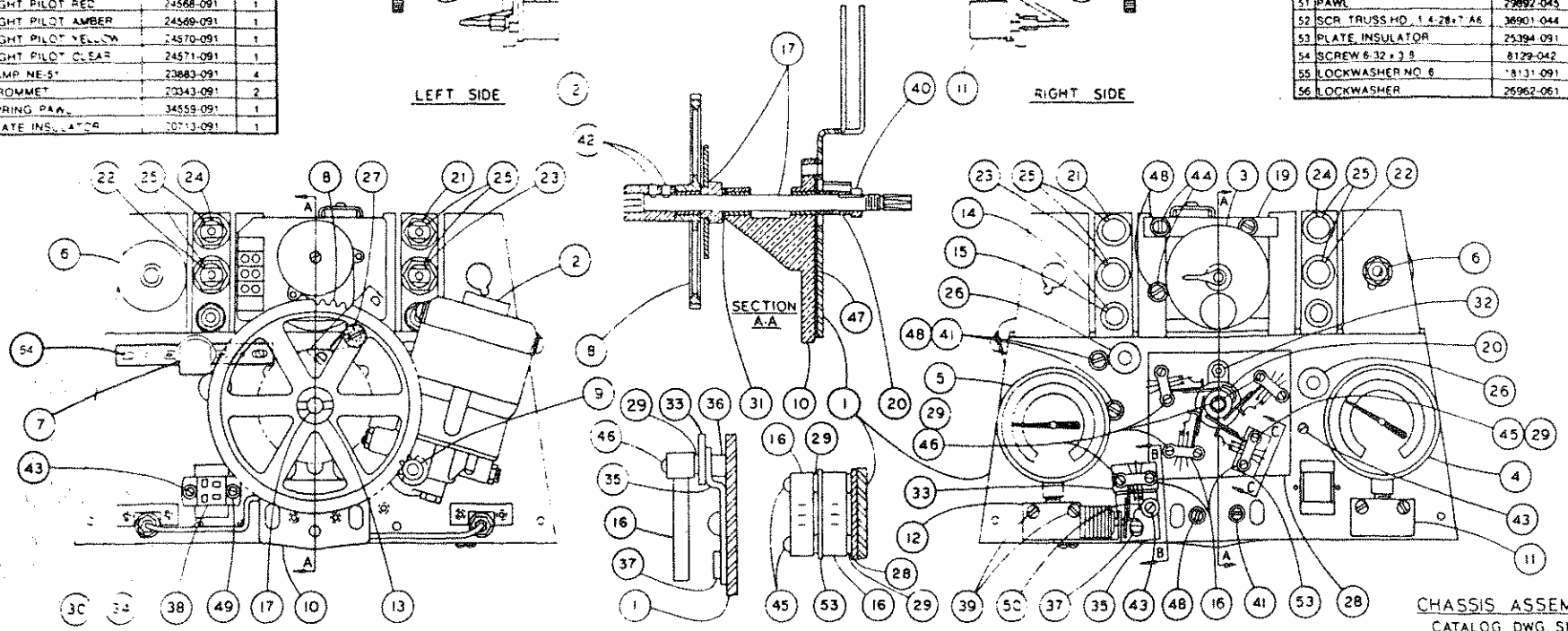
BILL OF MATERIAL

NO	NAME	PT NO	REQ
1	CHASSIS	98302-045	1
2	MOTOR ELECTRIC	51549-091	1
3	TIMER RESET	24579-091	1
	* SNAP SWITCH - T1	42189-091	1
	* SNAP SWITCH - T2	42188-091	1
4	GAUGE JACKET	7871-051	1
5	GAUGE CHAMBER	7372-051	1
6	SWITCH SELECTOR	26562-091	1
7	BUZZER	79739-001	1
8	GEAR DRIVEN	29883-A-091	1
9	GEAR PINION	20337-091	1
10	BRACKET ASSEMBLY	20564-A-091	1
11	CONNECTION GAUGE	20567-091	1
12	BELLOWS ASSEMBLY	20560-A-091	1
13	COUPLING	20570-044	1
14	FUSE HOLDERS	20340-091	2
15	FUSE, 1/2 AMP	20341-091	2
16	SWITCH SNAP	20332-091	6
17	SHAFT ASSEMBLY	33597-A-045	1
18	SPACER MOTOR	20578-045	2
19	BAR TIMER	24584-045	1
20	CAM ASSEMBLY	25160-A-061	1
21	LIGHT PILOT RED	24568-091	1
22	LIGHT PILOT AMBER	24569-091	1
23	LIGHT PILOT YELLOW	24570-091	1
24	LIGHT PILOT CLEAR	24571-091	1
25	LAMP NE-51	23883-091	4
26	GROMMET	20343-091	2
27	SPRING PAWL	34559-091	1
28	PLATE INSULATOR	20713-091	1

BILL OF MATERIAL

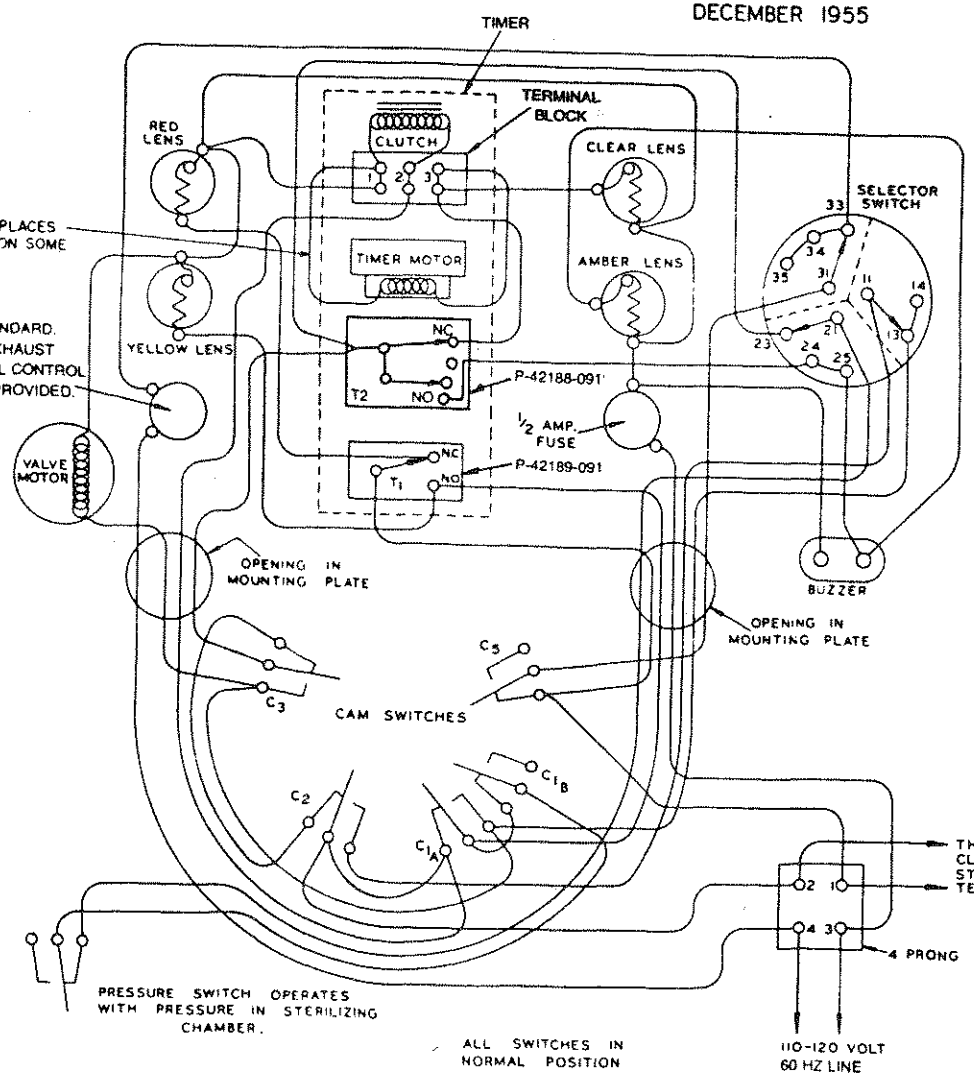
NO	NAME	PT NO	REQ
29	WASHER	26032-091	12
30	PLATE CLAMP	20738-042	2
31	WASHER	10412-042	1
32	POST	20723-091	1
33	PLATE INSULATOR	20722-091	1
34	FITTING	20344-044	2
35	PLATE SWTICH MTG	20717-061	1
36	PIN	20719-091	1
37	PIN, ADJUSTING	20721-091	1
38	PLUG, 4 POLE	20334-091	1
39	SCREW, 10-32 x 1-1 4	12175-045	4
40	SCREW, SET 10-32	10583-091	1
41	SCREW, 10-32 x 5/8	75242-045	4
42	SCREW, SET 1 4-20	41101-091	2
43	SCREW, 6-32 x 1-4	12529-061	5
44	SCREW, 10-32 x 1-2	9298-041	3
45	SEMS, 5-40 x 1	26034-045	2
46	SEMS, 5-40 x 9-16	26033-045	8
47	GASKET	26031-091	1
48	LOCKWASHER NO 10	19677-041	7
49	LOCKWASHER NO 6	19675-041	2
50	WASHER PLAIN NO 6	20844-061	1
51	PAWL	29892-045	1
52	SCR TRUSS HD, 1 4-28x7 A6	36901-044	1
53	PLATE INSULATOR	25394-091	1
54	SCREW 6-32 x 3 8	8129-042	2
55	LOCKWASHER NO 6	18131-091	2
56	LOCKWASHER	26962-061	2



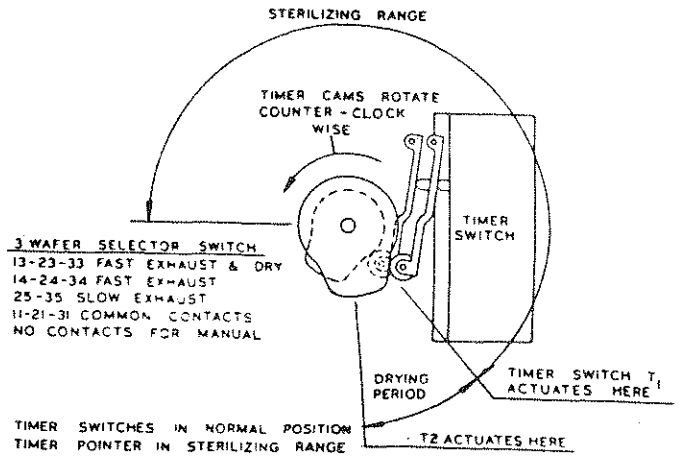


CHASSIS ASSEMBLY
CATALOG DWG. SM-93
SEPTEMBER 1957

WIRING DIAGRAM
CATALOG DWG. SM-94
DECEMBER 1955

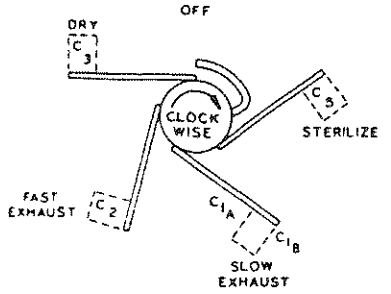


NOTE: STERILIZER RANGE AND DRYING PERIOD IS FOR DRESSING, LABORATORY, AND FORMULA STERILIZERS



3 WAFER SELECTOR SWITCH
13-23-33 FAST EXHAUST & DRY
14-24-34 FAST EXHAUST
25-35 SLOW EXHAUST
11-21-31 COMMON CONTACTS
NO CONTACTS FOR MANUAL

TIMER SWITCHES IN NORMAL POSITION
TIMER POINTER IN STERILIZING RANGE
T_1 IN FRONT, T_2 IN BACK.



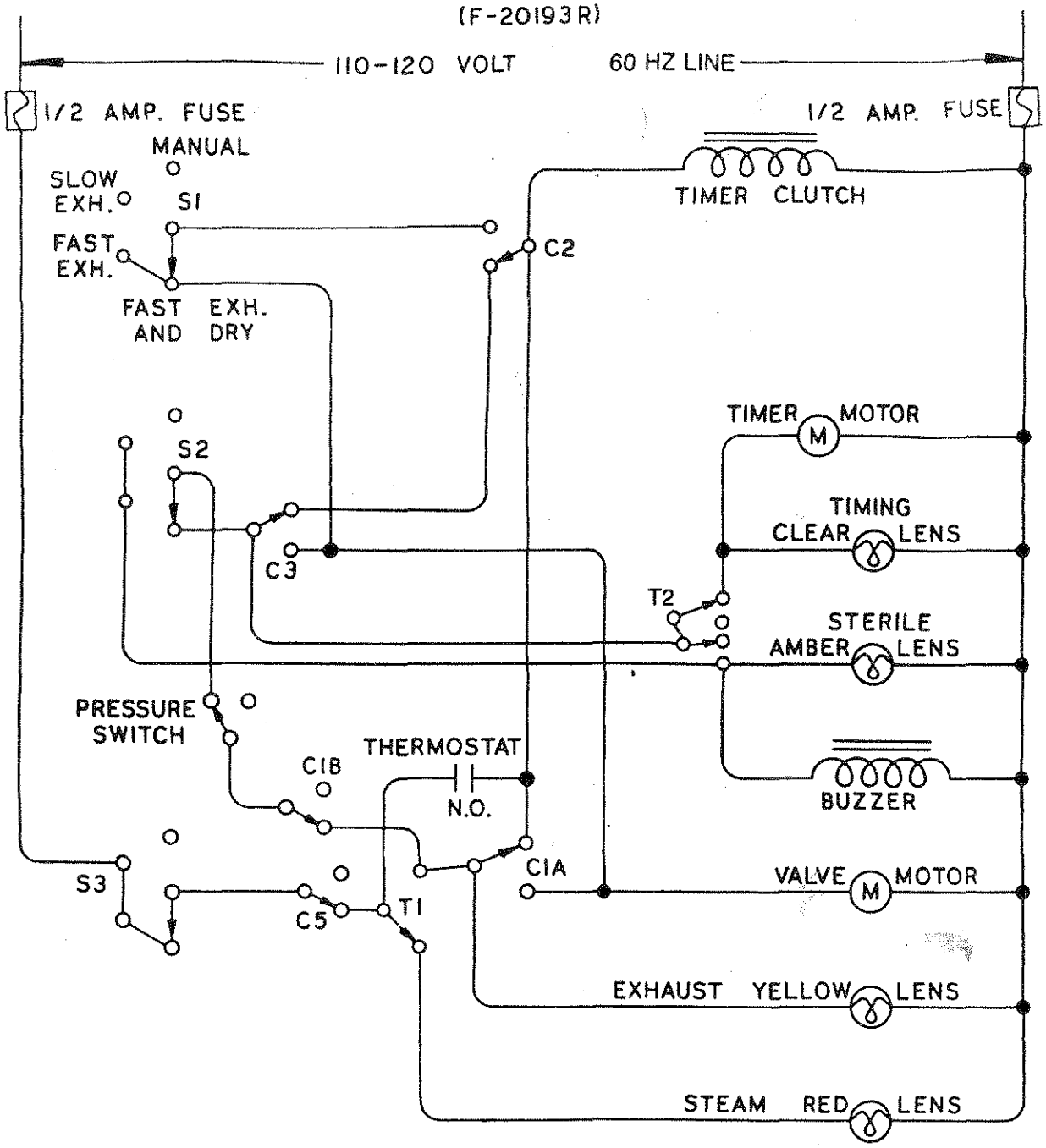
DETAIL OF CAM SWITCHES

DETAIL SHOWS POSITION OF CAM WITH VALVE HAND WHEEL POINTER IN "DRY" POSITION. ALL SWITCHES IN NORMAL POSITION, WHEN HAND WHEEL IS MANUALLY TURNED TO "OFF", CAM ACTUATES C5. IN "STERILIZE" POSITION C5, C2, C3, ARE NORMAL AND C1A, C1B, ARE ACTUATED. IN "SLOW EXHAUST" POSITION, C5, C1A, C1B, C3, ARE NORMAL AND C2 ACTUATED. IN "FAST EXHAUST" POSITION, C5, C1A, C1B, C2, ARE NORMAL AND C3 IS ACTUATED. NOTE AT C1 POSITION, THERE ARE TWO SWITCHES. C1A IS ON THE BOTTOM AND C1B IS ON THE TOP OR FRONT.

AMERICAN STERILIZER COMPANY, ERIE, PENNA.

SCHEMATIC DIAGRAM

(F-20193R)



S1-S2-S3 THREE WAFER SELECTOR SWITCH SHOWN IN FAST EXHAUST AND DRY POSITION. C1A-C1B-C2-C3-C5 CAM SWITCHES. T1-T2 TIMER SWITCHES. TIMER IN STERILIZING RANGE. ALL SWITCHES IN NORMAL POSITION. USED ON DRESSING AND PRESSURE INSTRUMENT STERILIZERS.

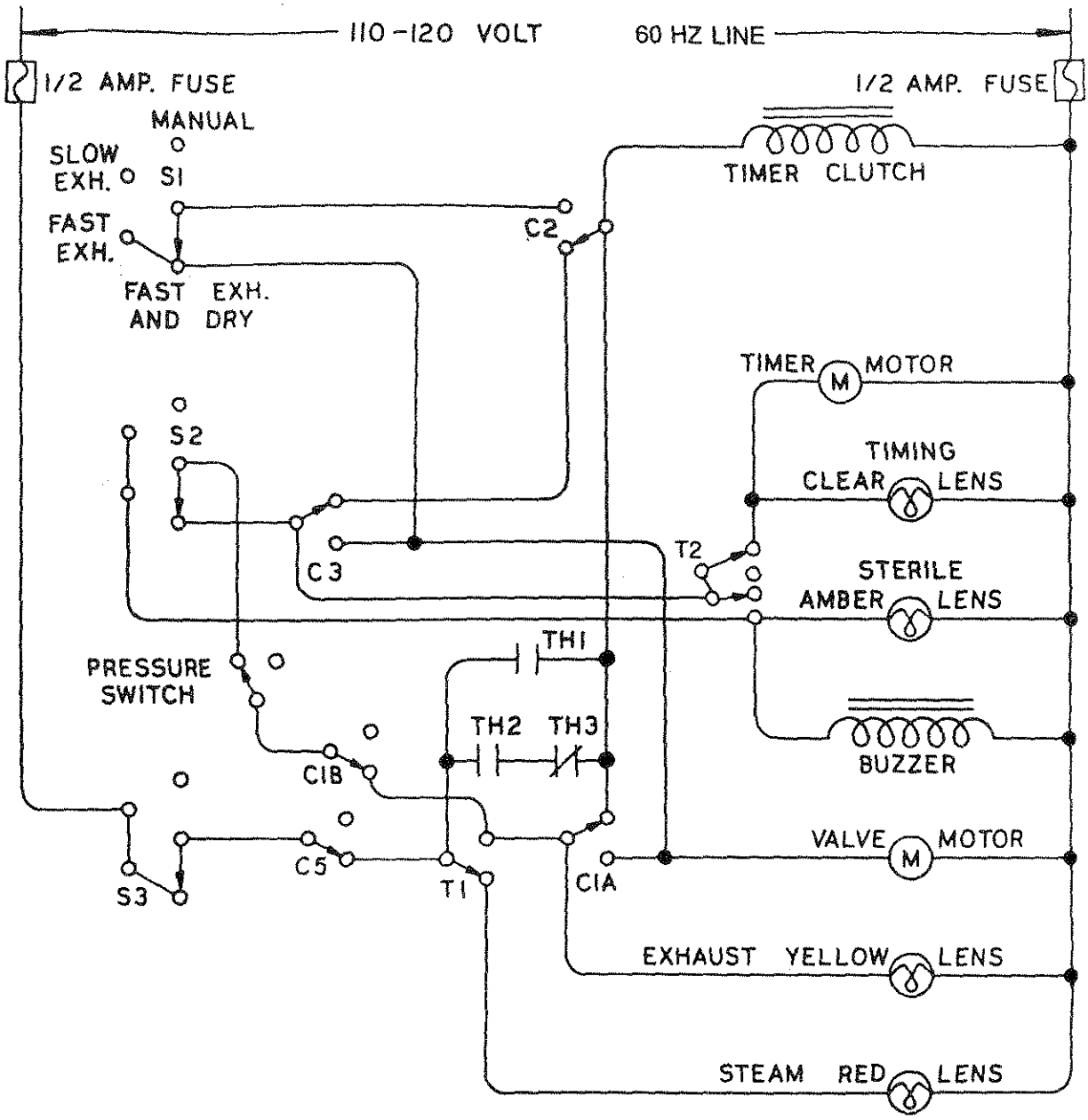
OFF POSITION	STERILIZE POSITION	SLOW EXHAUST POSITION	FAST EXHAUST POSITION	DRY POSITION
C5 ACTUATED	C5 NORMAL	C5 NORMAL	C5 NORMAL	C5 NORMAL
C1A NORMAL	C1A ACTUATED	C1A NORMAL	C1A NORMAL	C1A NORMAL
C1B NORMAL	C1B ACTUATED	C1B NORMAL	C1B NORMAL	C1B NORMAL
C2 NORMAL	C2 NORMAL	C2 ACTUATED	C2 NORMAL	C2 NORMAL
C3 NORMAL	C3 NORMAL	C3 NORMAL	C3 ACTUATED	C3 NORMAL

THERMOSTAT CLOSES WHEN TEMPERATURE REACHES 250 F. PRESSURE SWITCH ACTUATES WHEN PRESSURE REACHES ABOVE 2 POUNDS. T1 ACTUATES AFTER STERILIZING CYCLE.

PRESSURE SWITCH NORMAL AFTER EXHAUST OF PRESSURE. THERMOSTAT OPENS WHEN TEMPERATURE IS REDUCED TO 248 F.

T2 ACTUATES AFTER DRYING CYCLE.

SCHEMATIC DIAGRAM
(F-20194R)



S1-S2-S3 THREE WAFER SELECTOR SWITCH SHOWN IN FAST EXHAUST AND DRY POSITION. C1A-C1B-C2-C3-C5 CAM SWITCHES.
T1-T2 TIMER SWITCHES. TIMER IN STERILIZING RANGE. TH1 THERMOSTAT NORMALLY OPEN, CLOSES AT 246 TO 250 F.
TH2 THERMOSTAT NORMALLY OPEN, CLOSES AT 208 TO 210 F. TH3 THERMOSTAT NORMALLY CLOSED, OPENS AT 216 TO 218 F. ALL SWITCHES IN NORMAL POSITION. USED ON LABORATORY AND FORMULA STERILIZERS.

OFF POSITION -	STERILIZE POSITION -	SLOW EXHAUST POSITION -	FAST EXHAUST POSITION -	DRY POSITION
C5 ACTUATED	C5 NORMAL	C5 NORMAL	C5 NORMAL	C5 NORMAL
C1A NORMAL	C1A ACTUATED	C1A NORMAL	C1A NORMAL	C1A NORMAL
C1B NORMAL	C1B ACTUATED	C1B NORMAL	C1A NORMAL	C1B NORMAL
C2 NORMAL	C2 NORMAL	C2 ACTUATED	C2 NORMAL	C2 NORMAL
C3 NORMAL	C3 NORMAL	C3 NORMAL	C3 ACTUATED	C3 NORMAL

STERILE POSITION FOR 250 F. OPERATION.
TH1 CLOSES WHEN TEMPERATURE REACHES 250 F.
TH2 CLOSES WHEN TEMPERATURE REACHES 210 F.
TH3 OPENS WHEN TEMPERATURE REACHES 216 F.
T1 ACTUATES AFTER STERILIZING CYCLE. PRESSURE SWITCH ACTUATES WITH PRESSURE OF 2 PSI OR MORE IN STERILIZING CHAMBER.

PRESSURE SWITCH IS NORMAL AFTER EXHAUST ON 250 F. OPERATION.

STERILE POSITION FOR 212 F. OPERATION.
TH1 CLOSES WHEN TEMPERATURE REACHES 210 F. TH2 CLOSED AT 212 F. TH3 OPEN AT 212 F. T1 ACTUATES AFTER STERILIZING CYCLE. PRESSURE SWITCH REMAINS NORMAL.

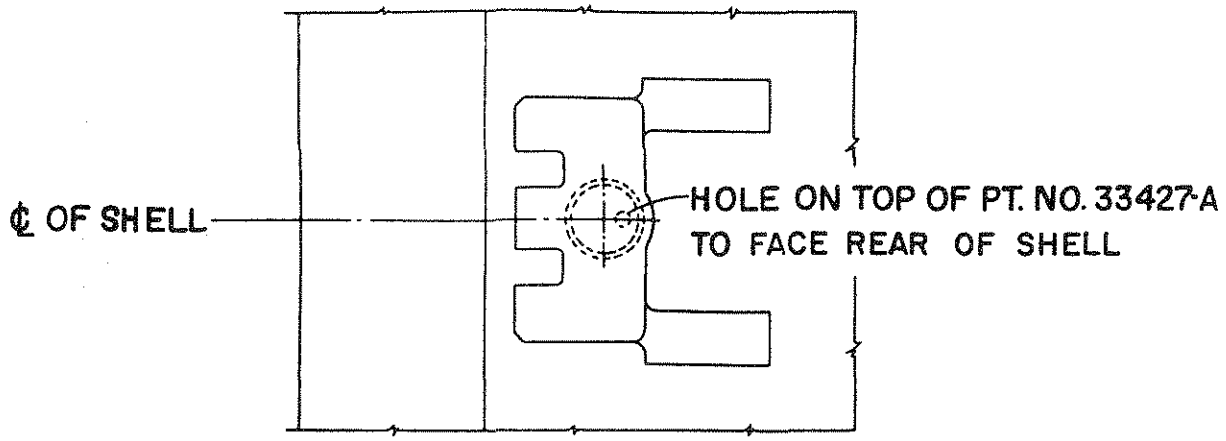
T2 ACTUATES AFTER DRYING CYCLE.

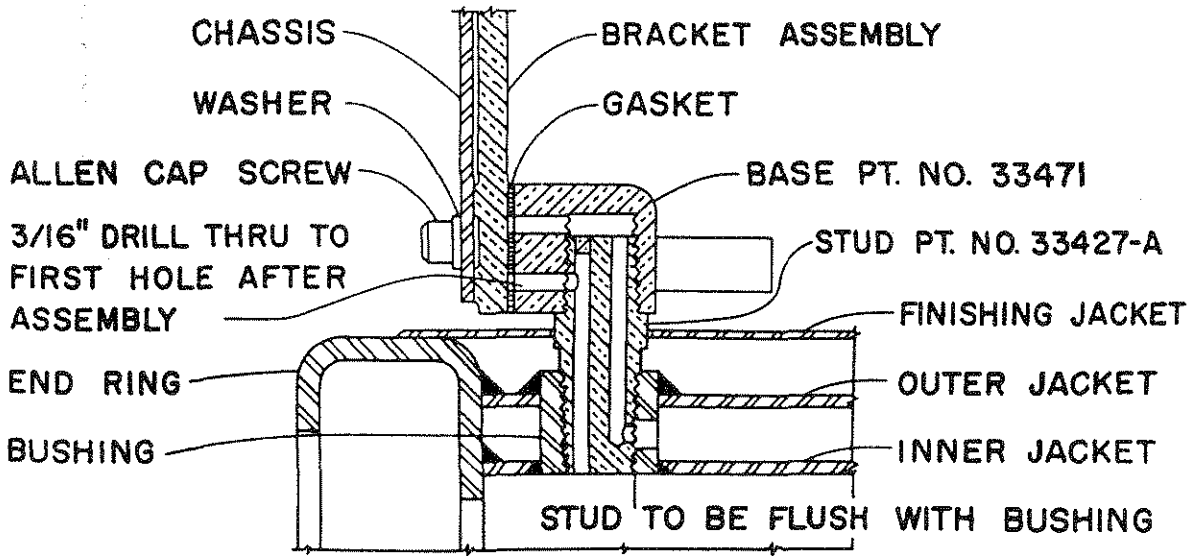
PROCEDURE :

1 - INSERT PT. NO. 33427-A INTO SHELL.
NOTE: HOLE TO FACE REAR OF SHELL AS INDICATED

2 - ASSEMBLE PT. NO. 33471 TO PT. NO. 33427-A.

3 - DRILL AS INDICATED.





INSTRUCTIONS FOR FIELD INSTALLATION OF NEW STYLE BASE FOR CYCLOMATIC CONTROL ON SQUARE AND CYLINDRICAL STERILIZERS

EXPOSURE AND DRY TIMERS

Timers 24579, 46129, 55667, 96266 and 96073

Timers stocked under these part numbers have three switches. It is necessary to identify the respective switches on each timer when replacing a timer with one of another manufacturer. Figure 1 shows the relative position of each microswitch on the Cramer & Bristol Saybrook timers. Figure 1, in the lower left corner under Items Common To Both Timers, shows how the different switch designations relate to each other and to the terms STERILIZE, DRY and MOTOR. After identifying respective switches, wire connections to microswitches are to be made identical to old timer.

Timer 96909

Timers stocked under this part number have two switches. It is necessary to identify the respective switches on each timer when replacing a timer with one of another manufacturer. Figure 2 shows the relative position of each microswitch on the Cramer & Bristol Saybrook timers. Figure 2, in the lower left corner under Items Common To Both Timers, shows how the different switch designations relate to each other and to the terms STERILIZE, DRY and MOTOR. After identifying respective switches, wire connections to microswitches are to be made identical to old timer.

NOTE: For either a two or three switch timer — When replacing a Cramer timer with a Bristol Saybrook timer, it may be necessary to lengthen certain wires to reach the microswitches.

When changing from Cramer to Bristol Saybrook 3-Switch Timer

Refer to Figure 1 and make the following wire changes:

1. Bristol Saybrook switch T0:

   a. The connections are prewired as shown on Figure 1.

2. **Bristol Saybrook switch T1:**

   a. A wire from the Common to Cam Switch C3 (Common).

   b. A wire from Normally Open to terminal 24 of the Rotary Selector Switch.

   c. Normally Closed not used.

3. Bristol Saybrook switch T2:

   a. A wire from the Common to Cam Switch C5 (Normally Closed).

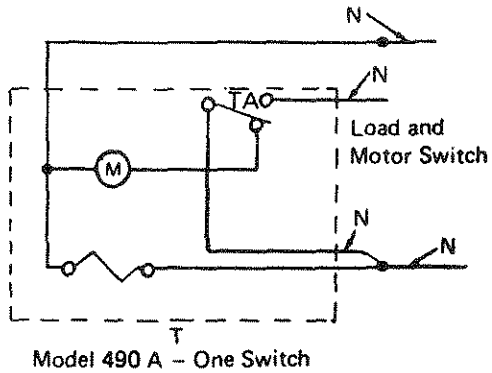
   b. A wire from Normally Open to Exhaust Light and Cam Switch Cla (Common).

   c. A wire from Normally Closed to Steam Light.

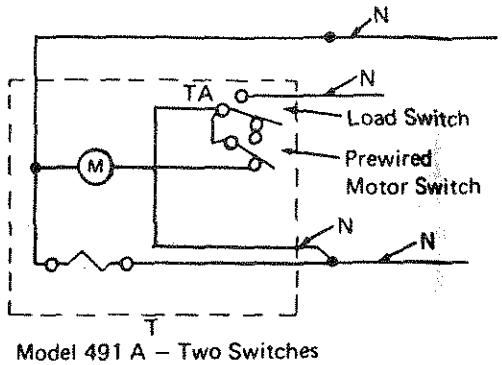
NOTE: Cramer Model 491A Timer replaces Model 490A. This change includes the addition of a separate, prewired, motor switch to replace the load switch arrangement (internal make-before-break) used previously.

Previous timers with one switch now have two; those with two now have three. The following schematics are only provided for information. No change in the external wiring is required when replacing an old timer with a new one.

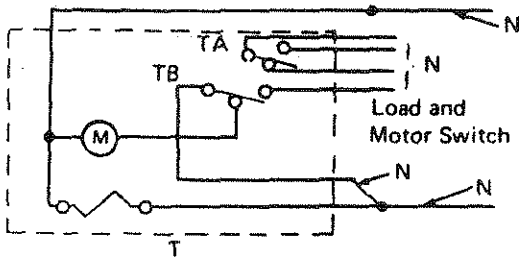
"N" Indicates Numbered Wires.
All Other By Vendor.



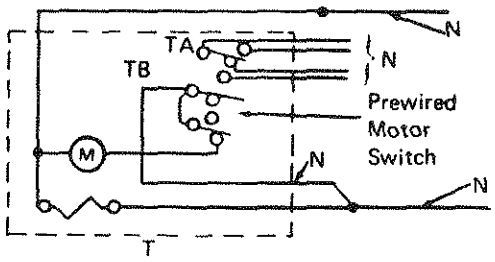
Model 490 A – One Switch
TA Internal Make-Before-Break



Model 491 A – Two Switches
TA Makes Before Motor Switch Breaks



Model 490 A – Two Switches
TB Internal Make-Before-Break



Model 491 A – Three Switches
TB Makes Before Motor Switch Breaks

ELECTRICAL SCHEMATICS, CRAMER RESET TIMERS.